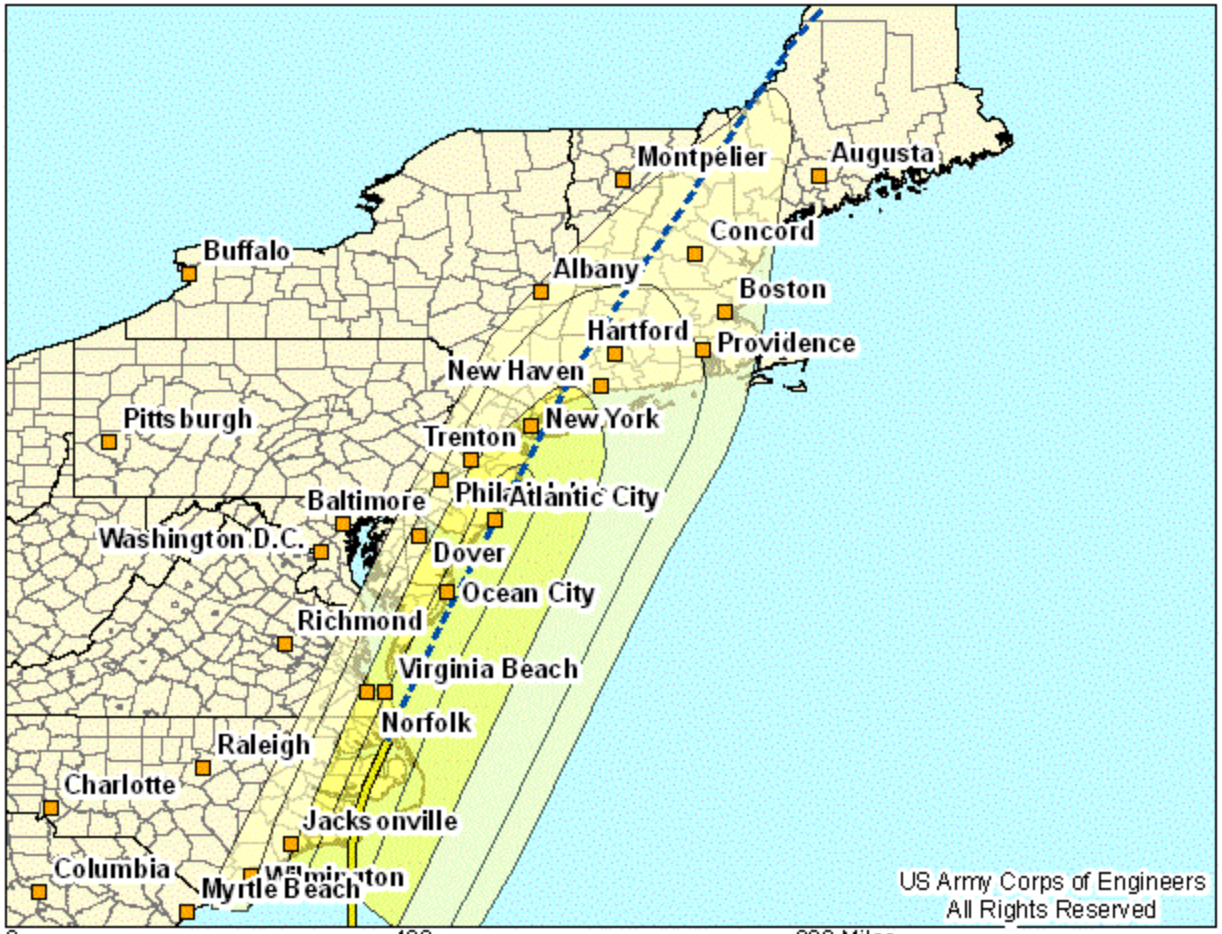
US Army Corps of Engineers

Hurricane Irene Projected Damage Areas

Landfall Plus About 9 Hours

For Planning Purposes Only!



Post Landfall Projected Damage Areas

This model is based on a Category 1 storm making landfall near Outer Banks. NC.

Forecast Track
Historic Track

Projected Damage Areas

- CAT 0-type damage
- CAT 1-type damage
- CAT 2-type damage
- CAT 3-type damage
- CAT 4-type damage
- CAT 5-type damage

Information provided on this page displays a projected or actual Category 1 storm making landfall near Outer Banks. NC. These projections are based on information from the NHC (1700 EDT 08/27/2011) forecast and extrapolated by LRL staff to represent a landfall condition that has either occurred or may occur in the near future.

Details about this model may be obtained at http://www.englink.usace.army.mil or contact Louisville District staff at DLL-CELRL-GIS@usace.army.mil

Hurricane Irene Projected Damage Areas

Generated By:
Siemsen, LRL 1730 EDT 08/27/2011

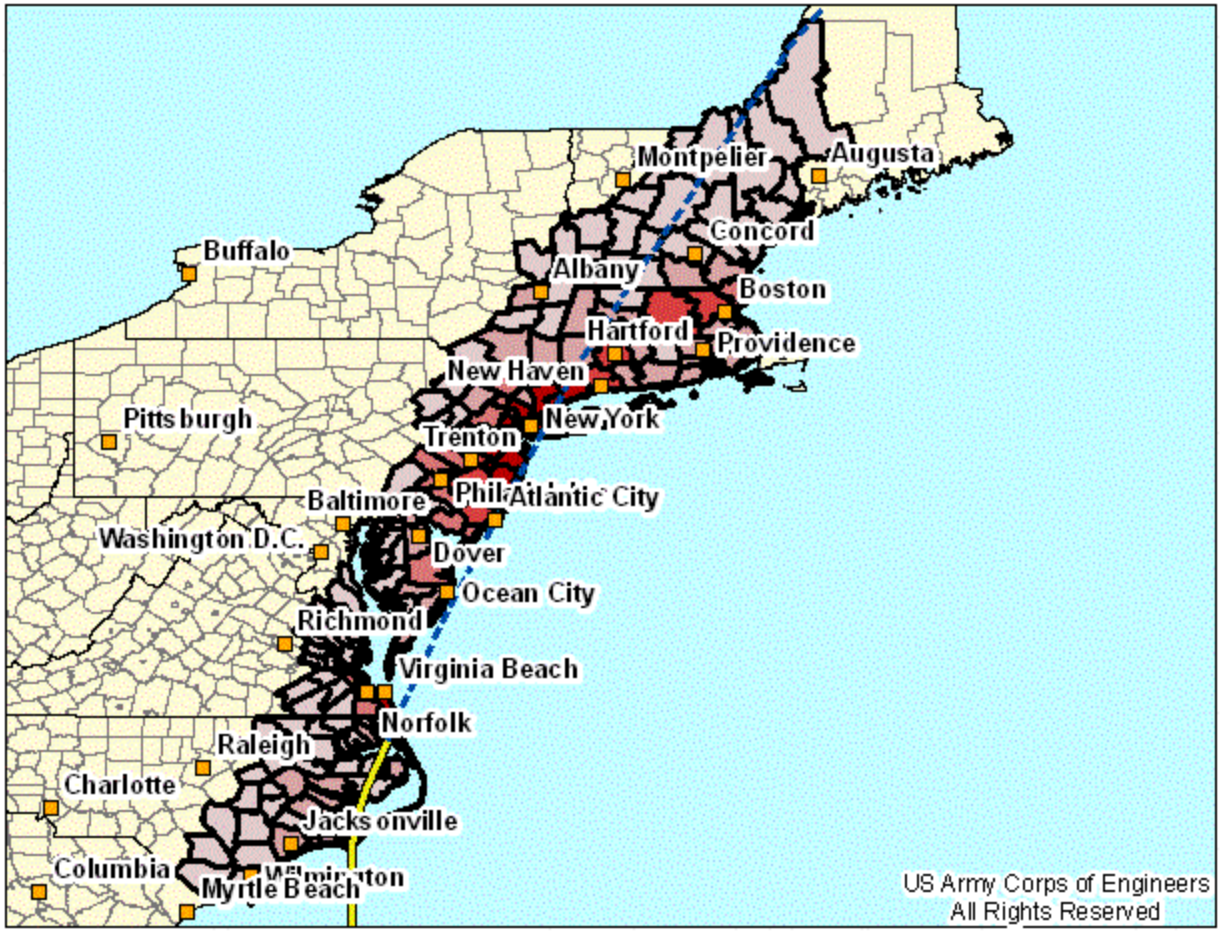
Sources:
HURREVAC
LRL-DEBRIS

US Army Corps of Engineers

Hurricane Irene Debris Model

Landfall Plus About 9 Hours

For Planning Purposes Only!



Post Landfall Debris Model Results

New Jersey - 14,663,000 Yards
New York - 13,861,000 Yards
Virginia - 3,297,000 Yards
Connecticut - 3,205,000 Yards
Massachusetts - 2,869,000 Yards
Pennsylvania - 2,286,000 Yards
North Carolina - 2,116,000 Yards
Delaware - 877,000 Yards
New Hampshire - 639,000 Yards
Maryland - 541,000 Yards
Rhode Island - 525,000 Yards
Vermont - 161,000 Yards
Maine - 158,000 Yards

Model results per County on following page

This model is based on a Category 1 storm making landfall near Outer Banks. NC.

Forecast Track

Historic Track

Debris

- < 100,000 cubic yards
- 100,000 - 249,999 cubic yards
- 250,000 - 499,999 cubic yards
- 500,000 - 999,999 cubic yards
- >1,000,000 cubic yards

Information provided on this page displays a Category 1 storm making landfall near Outer Banks. NC. These projections are based on information from the NHC (1700 EDT 08/27/2011) forecast. The amount of debris forecasted is possible total volume, not necessarily the volume that may need to be removed with Federal funds, but does not include volume that may be covered by private insurance. Debris volume may include storm surge generated debris.

Details about this model may be obtained at http://www.englink.usace.army.mil
or contact Louisville District staff at DLL-CELRL-GIS@usace.army.mil

Hurricane Irene Debris Model

Generated By:
Siemsen, LRL 1730 EDT 08/27/2011

Sources:
HURREVAC
LRL-DEBRIS

US Army Corps of Engineers

Hurricane Irene Debris Model

Landfall Plus About 9 Hours

For Planning Purposes Only!

State	Yards per State	County	Yards per County
Connecticut		Fairfield County	1,126,000
		Hartford County	658,000
		Litchfield County	181,000
		Middlesex County	172,000
		New Haven County	638,000
		New London County	214,000
		Tolland County	116,000
		Windham County	100,000
Connecticut	3,205,000		
Delaware		Kent County	149,000
		New Castle County	249,000
		Sussex County	479,000
Delaware	877,000		
Maine		Androscoggin County	5,000
		Cumberland County	31,000
		Franklin County	7,000
		Oxford County	28,000
		Somerset County	< 1,000
		York County	87,000
Maine	158,000		
Maryland		Calvert County	< 1,000
		Caroline County	25,000
		Cecil County	4,000
		Dorchester County	30,000
		Kent County	2,000
		Queen Anne's County	8,000
		Somerset County	51,000
		St. Mary's County	22,000
Maryland (continued)		Talbot County	19,000
		Wicomico County	188,000
		Worcester County	192,000
Maryland	541,000		
Massachusetts		Berkshire County	114,000
		Bristol County	208,000
		Dukes County	< 1,000
		Essex County	274,000
		Franklin County	69,000
		Hampden County	357,000
		Hampshire County	116,000
		Middlesex County	545,000
		Norfolk County	247,000
		Plymouth County	181,000
		Suffolk County	221,000
		Worcester County	537,000
Massachusetts	2,869,000		
New Hampshire		Belknap County	33,000
		Carroll County	39,000
		Cheshire County	43,000
		Coos County	28,000
		Grafton County	68,000
		Hillsborough County	156,000
		Merrimack County	74,000
		Rockingham County	124,000
		Strafford County	51,000
		Sullivan County	23,000

The amount of debris forecasted is possible total volume, not necessarily the volume that may need to be removed with Federal funds, but does not include volume that may be covered by private insurance. Debris volume may include storm surge generated debris.

Details about this model may be obtained at http://www.englink.usace.army.mil or contact Louisville District staff at DLL-CELRL-GIS@usace.army.mil

Source: US Army Corps of Engineers, All Rights Reserved

Hurricane Irene Debris Model

Generated By:
Siemsen, LRL 1730 EDT 08/27/2011

Sources:
HURREVAC
LRL-DEBRIS

US Army Corps of Engineers

Hurricane Irene Debris Model

Landfall Plus About 9 Hours

For Planning Purposes Only!

State	Yards per State	County	Yards per County
New Hampshire	639,000		
(continued)			
New Jersey		Atlantic County	813,000
		Bergen County	1,454,000
		Burlington County	758,000
		Camden County	642,000
		Cape May County	331,000
		Cumberland County	277,000
		Essex County	1,076,000
		Gloucester County	348,000
		Hudson County	903,000
		Hunterdon County	112,000
		Mercer County	503,000
		Middlesex County	1,512,000
		Monmouth County	1,401,000
		Morris County	498,000
		Ocean County	2,082,000
		Passaic County	453,000
		Salem County	59,000
		Somerset County	364,000
		Sussex County	122,000
		Union County	898,000
		Warren County	57,000
New Jersey	14,663,000		
New York		Albany County	120,000
		Bronx County	971,000
		Columbia County	48,000
		Dutchess County	222,000
		Greene County	24,000
		Kings County	2,355,000

State	Yards per State	County	Yards per County
New York		Nassau County	1,968,000
(continued)		New York County	1,103,000
		Orange County	260,000
		Putnam County	76,000
		Queens County	2,480,000
		Rensselaer County	74,000
		Richmond County	683,000
		Rockland County	203,000
		Saratoga County	9,000
		Suffolk County	2,031,000
		Sullivan County	18,000
		Ulster County	147,000
		Washington County	8,000
		Westchester County	1,061,000
New York	13,861,000		
North Carolina		Beaufort County	109,000
		Bertie County	36,000
		Bladen County	2,000
		Brunswick County	83,000
		Camden County	33,000
		Carteret County	248,000
		Chowan County	34,000
		Columbus County	5,000
		Craven County	244,000
		Currituck County	82,000
		Dare County	129,000
		Duplin County	29,000
		Edgecombe County	12,000

The amount of debris forecasted is possible total volume, not necessarily the volume that may need to be removed with Federal funds, but does not include volume that may be covered by private insurance. Debris volume may include storm surge generated debris.

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Source: US Army Corps of Engineers, All Rights Reserved

Hurricane Irene Debris Model

Generated By:
Siemsen, LRL 1730 EDT 08/27/2011

Sources:
HURREVAC
LRL-DEBRIS

US Army Corps of Engineers

Hurricane Irene Debris Model

Landfall Plus About 9 Hours

For Planning Purposes Only!

State	Yards per State	County	Yards per County
North Carolina		Gates County	21,000
(continued)		Greene County	10,000
		Halifax County	4,000
		Hertford County	25,000
		Hyde County	37,000
		Jones County	23,000
		Lenoir County	35,000
		Martin County	29,000
		New Hanover County	198,000
		Northampton County	7,000
		Onslow County	216,000
		Pamlico County	50,000
		Pasquotank County	125,000
		Pender County	54,000
		Perquimans County	36,000
		Pitt County	126,000
		Sampson County	< 1,000
		Tyrrell County	25,000
		Washington County	41,000
		Wayne County	8,000
		Wilson County	< 1,000
North Carolina	2,116,000		
Pennsylvania		Bucks County	423,000
		Chester County	57,000
		Delaware County	269,000
		Monroe County	< 1,000
		Montgomery County	345,000
		Northampton County	6,000
		Philadelphia County	1,178,000
		Pike County	8,000

State	Yards per State	County	Yards per County
Pennsylvania	2,286,000		
(continued)			
Rhode Island		Bristol County	23,000
		Kent County	111,000
		Newport County	36,000
		Providence County	249,000
		Washington County	106,000
Rhode Island	525,000		
Vermont		Bennington County	29,000
		Caledonia County	4,000
		Essex County	3,000
		Orange County	15,000
		Rutland County	14,000
		Windham County	45,000
		Windsor County	51,000
Vermont	161,000		
Virginia		Accomack County	106,000
		Charles City County	< 1,000
		Chesapeake city	456,000
		Essex County	< 1,000
		Franklin city	6,000
		Gloucester County	44,000
		Hampton city	215,000
		Isle of Wight County	42,000
		James City County	50,000
		King William County	< 1,000
		King and Queen County	2,000

The amount of debris forecasted is possible total volume, not necessarily the volume that may need to be removed with Federal funds, but does not include volume that may be covered by private insurance. Debris volume may include storm surge generated debris.

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Source: US Army Corps of Engineers, All Rights Reserved

Hurricane Irene Debris Model

Generated By:
Siemsen, LRL 1730 EDT 08/27/2011

Sources:
HURREVAC
LRL-DEBRIS

US Army Corps of Engineers

Hurricane Irene Debris Model

Landfall Plus About 9 Hours

For Planning Purposes Only!

State	Yards per State	County	Yards per County
Virginia		Lancaster County	12,000
(continued)		Mathews County	13,000
		Middlesex County	12,000
		New Kent County	< 1,000
		Newport News city	281,000
		Norfolk city	501,000
		Northampton County	29,000
		Northumberland County	12,000
		Poquoson city	14,000
		Portsmouth city	280,000
		Richmond County	2,000
		Southampton County	11,000
		Suffolk city	98,000
		Surry County	6,000
		Sussex County	3,000
		Virginia Beach city	1,035,000
		Westmoreland County	< 1,000
		Williamsburg city	7,000
		York County	60,000
Virginia	3,297,000		

The amount of debris forecasted is possible total volume, not necessarily the volume that may need to be removed with Federal funds, but does not include volume that may be covered by private insurance. Debris volume may include storm surge generated debris.

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Source: US Army Corps of Engineers, All Rights Reserved

Hurricane Irene Debris Model

Generated By:
Siemsen, LRL 1730 EDT 08/27/2011

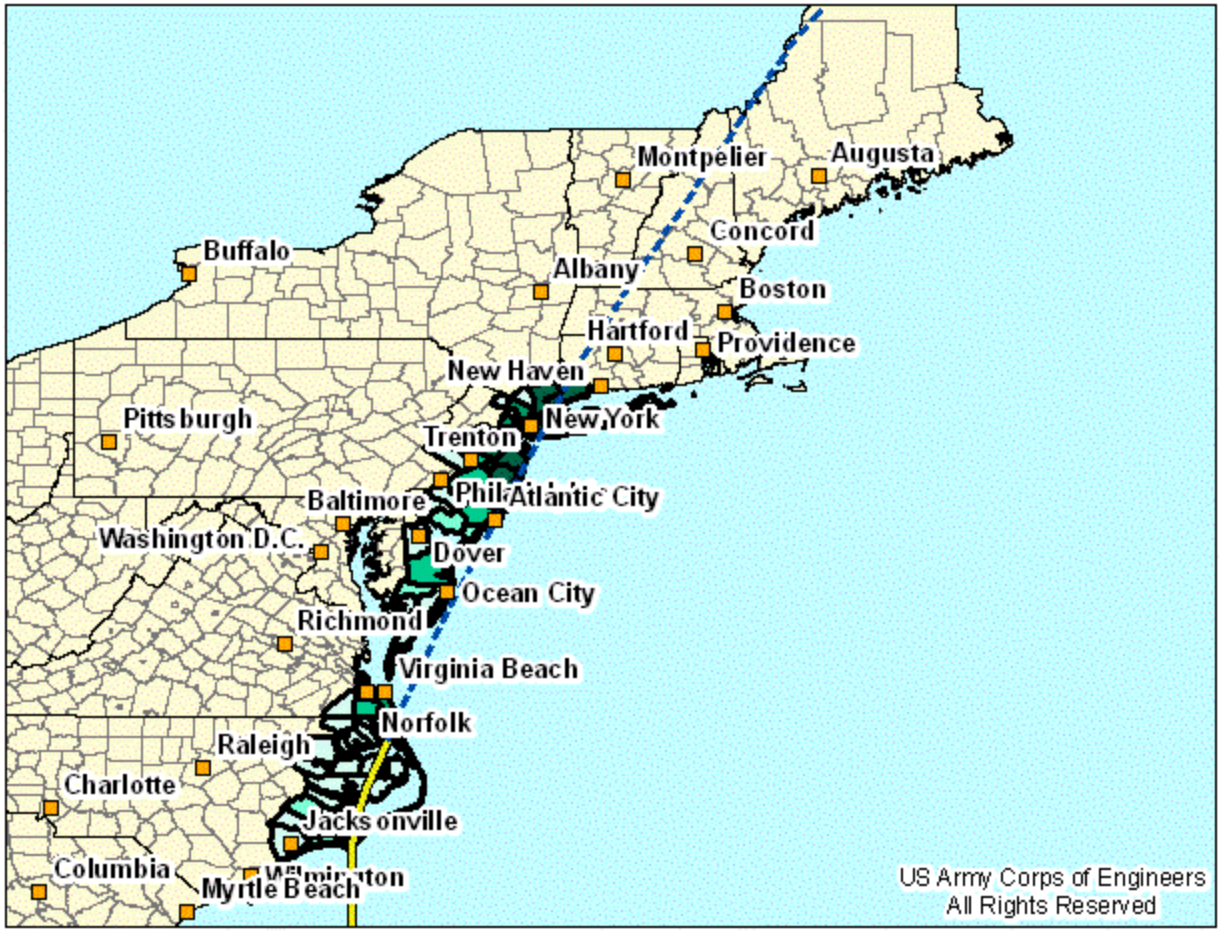
Sources:
HURREVAC
LRL-DEBRIS

US Army Corps of Engineers

Hurricane Irene Commodities Model

Landfall Plus About 9 Hours

For Planning Purposes Only!



Post Landfall Water Model Results

Day One / Day Two / Day Three

New York – 210/415/827 Truckloads
New Jersey – 90/180/365 Truckloads
Virginia – 22/43/86 Truckloads
Connecticut – 11/22/44 Truckloads
North Carolina – 9/18/36 Truckloads
Maryland – 3/6/13 Truckloads
Delaware – 3/6/13 Truckloads
Pennsylvania – 1/1/1 Truckloads

Model results per County on following page

This model is based on a Category 1 storm making landfall near Outer Banks. NC.

Forecast Track
Historic Track

Commodities

- < 5 Trucks Each
- 5 - 10 Trucks Each
- 11 - 20 Trucks Each
- 21 - 40 Trucks Each
- > 40 Trucks Each

Information provided on this page displays a Category 1 storm making landfall near Outer Banks. NC. These projections are based on information from the NHC ***(1700 EDT 08/27/2011)*** forecast. The amount of commodities forecasted is based on Mission Guide Book requirements and SME input. The graphic represents daily needs with a ramp-up in the distribution system – three days for Points of Distribution (PODs) to be fully in place and operational. Volume shown is for each commodity – water and ice. Commodity need may be supplied by multiple agencies and/or sources.

Details about this model may be obtained at http://www.englink.usace.army.mil
or contact Louisville District staff at DLL-CELRL-GIS@usace.army.mil

Hurricane Irene Commodities Model	
Generated By: Siemsen, LRL 1730 EDT 08/27/2011	
Sources: HURREVAC LRL-DEBRIS	Page 7 of 27

US Army Corps of Engineers

Hurricane Irene Commodities Model

Landfall Plus About 9 Hours

For Planning Purposes Only!

State	Truckloads per State	County	Truckloads per County
Connecticut		Fairfield County	44
Connecticut	44		
Delaware		Kent County	1
		Sussex County	12
Delaware	13		
Maryland		Somerset County	2
		Wicomico County	7
		Worcester County	4
Maryland	13		
New Jersey		Atlantic County	20
		Bergen County	35
		Burlington County	18
		Camden County	8
		Cape May County	7
		Cumberland County	8
		Essex County	35
		Gloucester County	4
		Hudson County	44
		Mercer County	11
		Middlesex County	53
		Monmouth County	46
		Ocean County	41
		Passaic County	2
		Salem County	1
		Somerset County	3
		Union County	29
New Jersey	365		

State	Truckloads per State	County	Truckloads per County
New York		Bronx County	98
		Kings County	179
		Nassau County	96
		New York County	114
		Queens County	165
		Richmond County	35
		Rockland County	1
		Suffolk County	88
		Westchester County	51
New York	827		
North Carolina		Beaufort County	2
		Bertie County	1
		Camden County	1
		Carteret County	5
		Chowan County	2
		Craven County	6
		Currituck County	2
		Dare County	3
		Gates County	1
		Hyde County	1
		Jones County	1
		Martin County	1
		Onslow County	3
		Pamlico County	1
		Pasquotank County	3
		Perquimans County	1
		Tyrrell County	1
		Washington County	1

Source: US Army Corps of Engineers, All Rights Reserved

The amount of commodities forecasted is based on Mission Guide Book requirements and SME input and the above table indicates suggested daily needs based on full deployment of a commodities distribution system. Volume shown is for each commodity – water and ice. Commodity need may be supplied by multiple agencies and/or sources.

Details about this model may be obtained at http://www.englink.usace.army.mil or contact Louisville District staff at DLL-CELRL-GIS@usace.army.mil

Hurricane Irene Commodities Model

Generated By:
Siemsen, LRL 1730 EDT 08/27/2011

Sources:
HURREVAC
LRL-DEBRIS

US Army Corps of Engineers

Hurricane Irene Commodities Model

Landfall Plus About 9 Hours

For Planning Purposes Only!

State	Truckloads per State	County	Truckloads per County
North Carolina	36		
(continued)			
Pennsylvania		Bucks County	1
Pennsylvania	1		
Virginia		Accomack County	3
		Chesapeake city	16
		Hampton city	5
		Norfolk city	18
		Northampton County	1
		Poquoson city	1
		Portsmouth city	10
		Suffolk city	1
		Virginia Beach city	31
Virginia	86		

Source: US Army Corps of Engineers, All Rights Reserved

The amount of commodities forecasted is based on Mission Guide Book requirements and SME input and the above table indicates suggested daily needs based on full deployment of a commodities distribution system. Volume shown is for each commodity – water and ice. Commodity need may be supplied by multiple agencies and/or sources.

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Hurricane Irene Commodities Model

Generated By:
Siemsen, LRL 1730 EDT 08/27/2011

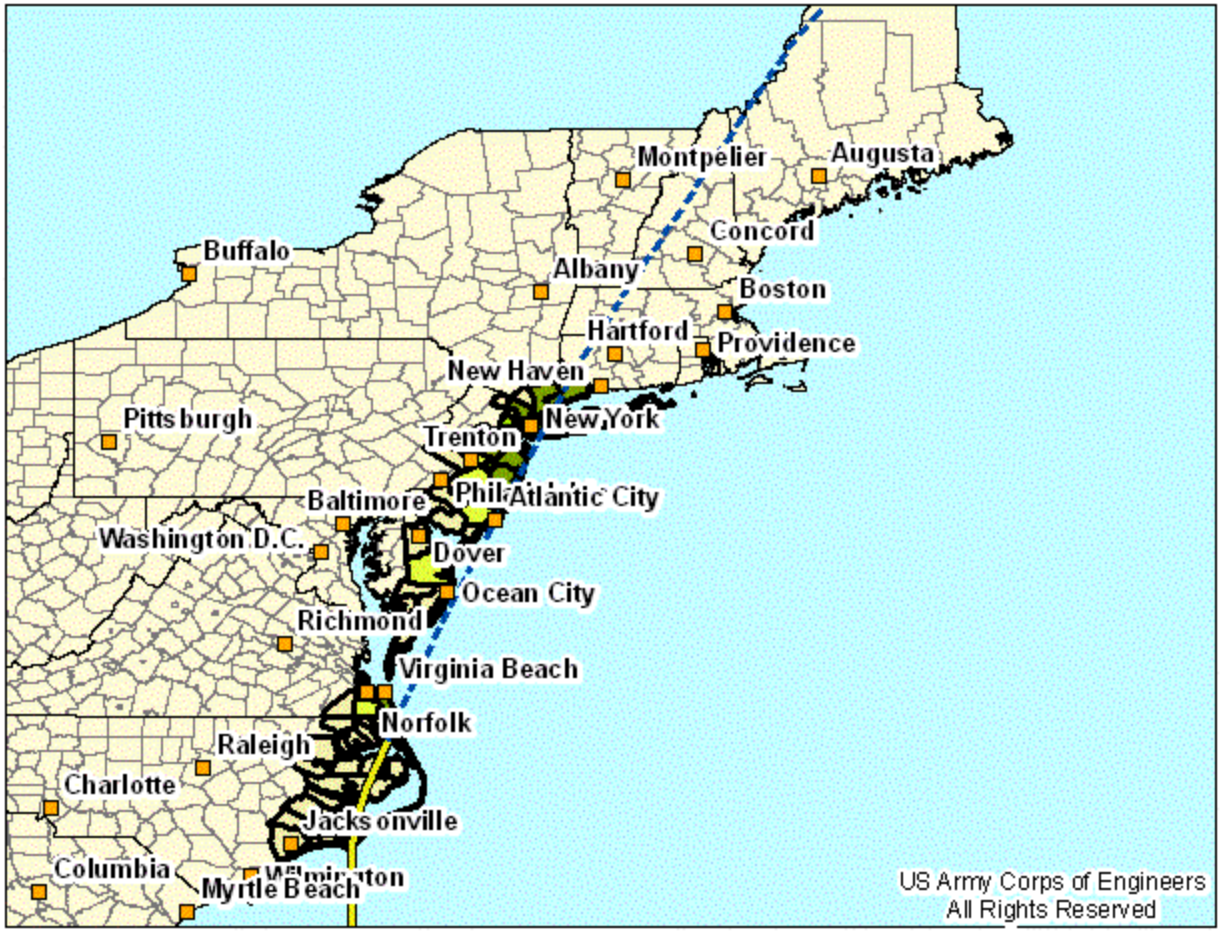
Sources:
HURREVAC
LRL-DEBRIS

US Army Corps of Engineers

Hurricane Irene Temporary Roofing Model

Landfall Plus About 9 Hours

For Planning Purposes Only!



Post Landfall Temporary Roofing Model Results

New York - 94,300
New Jersey - 66,100
Virginia - 16,600
Connecticut - 8,500
North Carolina - 6,900
Maryland - 2,800
Delaware - 2,500

Model results per County on following page

This model is based on a Category 1 storm making landfall near Outer Banks. NC.

Forecast Track
Historic Track

Temporary Roofing

- < 2,000 units
- 2,000 - 3,999 units
- 4,000 - 5,999 units
- 6,000 - 9,999 units
- > 10,000 units

Information provided on this page displays a Category 1 storm making landfall near Outer Banks. NC. These projections are based on information from the NHC (1700 EDT 08/27/2011) forecast. Temporary roofing is based on 5% in CAT 1.

Details about this model may be obtained at http://www.englink.usace.army.mil or contact Louisville District staff at DLL-CELRL-GIS@usace.army.mil

Hurricane Irene Roofing Model	
Generated By: Siemsen, LRL 1730 EDT 08/27/2011	
Sources: HURREVAC LRL-DEBRIS	Page 10 of 27

US Army Corps of Engineers

Hurricane Irene Temporary Roofing Model

Landfall Plus About 9 Hours

For Planning Purposes Only!

State	House Units per State	County	House Units per County
Connecticut		Fairfield County	8,500
Connecticut	8,500		
Delaware		Kent County	200
		Sussex County	2,300
Delaware	2,500		
Maryland		Somerset County	400
		Wicomico County	1,300
		Worcester County	1,100
Maryland	2,800		
New Jersey		Atlantic County	3,800
		Bergen County	7,200
		Burlington County	3,700
		Camden County	1,400
		Cape May County	1,600
		Cumberland County	1,600
		Essex County	4,700
		Gloucester County	800
		Hudson County	4,500
		Mercer County	2,100
		Middlesex County	9,700
		Monmouth County	9,200
		Ocean County	10,000
		Passaic County	200
		Salem County	< 100
		Somerset County	500
		Union County	5,100
New Jersey	66,100		

State	House Units per State	County	House Units per County
New York		Bronx County	4,600
		Kings County	15,000
		Nassau County	19,900
		New York County	800
		Queens County	20,900
		Richmond County	7,200
		Rockland County	< 100
		Suffolk County	18,000
		Westchester County	7,900
New York	94,300		
North Carolina		Beaufort County	400
		Bertie County	< 100
		Camden County	200
		Carteret County	1,400
		Chowan County	300
		Craven County	1,200
		Currituck County	500
		Dare County	800
		Gates County	< 100
		Hyde County	< 100
		Jones County	< 100
		Martin County	< 100
		Onslow County	400
		Pamlico County	300
		Pasquotank County	800
		Perquimans County	300
		Tyrrell County	< 100
		Washington County	300

Temporary roofing is based on 5% in CAT 1.

Details about this model may be obtained at http://www.englink.usace.army.mil
or contact Louisville District staff at DLL-CELRL-GIS@usace.army.mil

Source: US Army Corps of Engineers, All Rights Reserved

Hurricane Irene Roofing Model

Generated By:
Siemsen, LRL 1730 EDT 08/27/2011

Sources:
HURREVAC
LRL-DEBRIS

US Army Corps of Engineers

Hurricane Irene Temporary Roofing Model

Landfall Plus About 9 Hours

For Planning Purposes Only!

State	House Units per State	County	House Units per County
North Carolina	6,900		
(continued)			
Pennsylvania		Bucks County	< 100
Pennsylvania			
Virginia		Accomack County	800
		Chesapeake city	3,400
		Hampton city	800
		Norfolk city	3,000
		Northampton County	300
		Poquoson city	< 100
		Portsmouth city	1,900
		Suffolk city	< 100
		Virginia Beach city	6,400
Virginia	16,600		

Temporary roofing is based on 5% in CAT 1.

Details about this model may be obtained at http://www.englink.usace.army.mil
or contact Louisville District staff at DLL-CELRL-GIS@usace.army.mil

Source: US Army Corps of Engineers, All Rights Reserved

Hurricane Irene Roofing Model

Generated By:
Siemsen, LRL 1730 EDT 08/27/2011

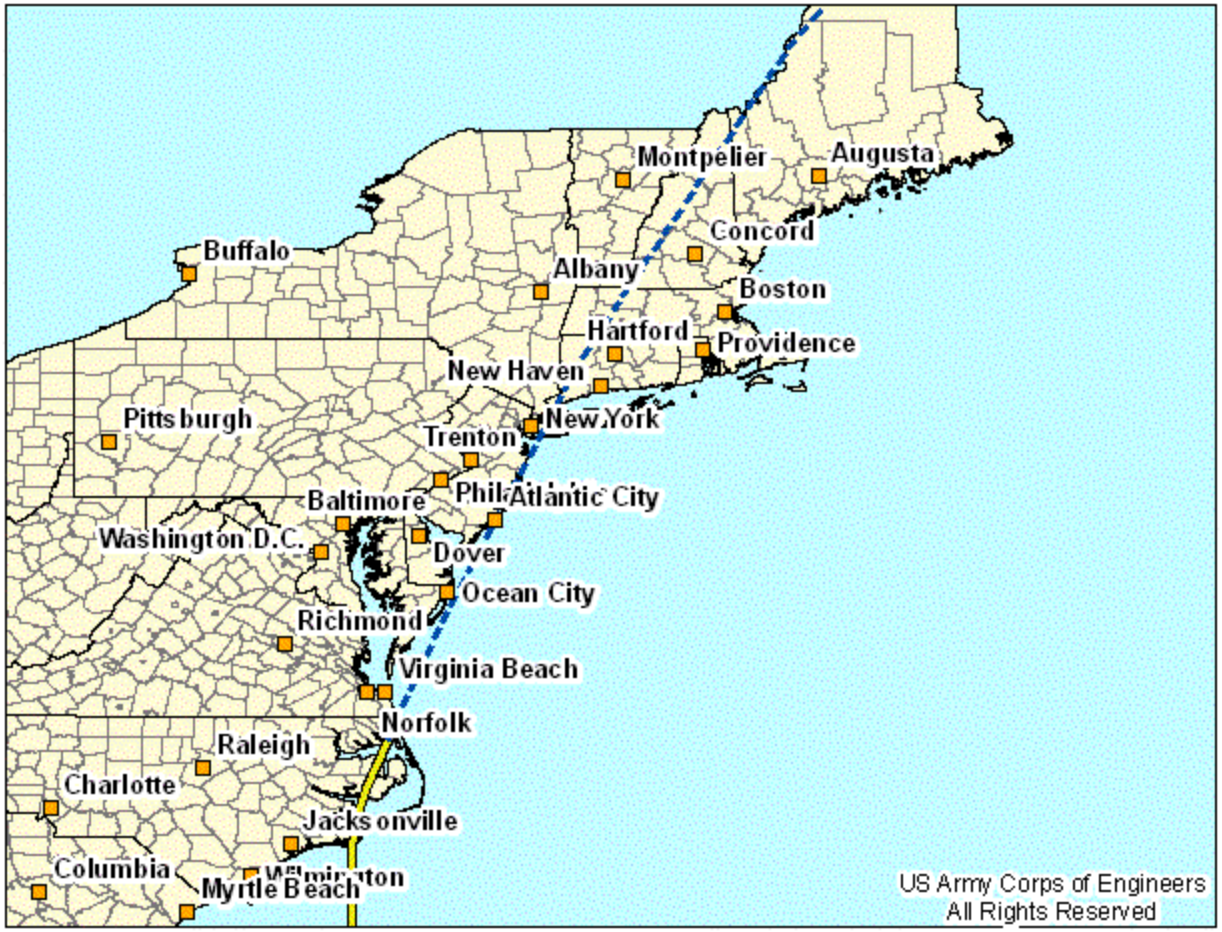
Sources:
HURREVAC
LRL-DEBRIS

US Army Corps of Engineers

Hurricane Irene Temporary Housing Model

Landfall Plus About 9 Hours

For Planning Purposes Only!



Post Landfall Temporary Housing Model Results

No significant Temporary Housing need expected

Model results per County on following page

This model is based on a Category 1 storm making landfall near Outer Banks. NC.

Forecast Track

Historic Track

Temporary Housing

- < 2,000 units
- 2,000 - 3,999 units
- 4,000 - 5,999 units
- 6,000 - 9,999 units
- > 10,000 units

Information provided on this page displays a Category 1 storm making landfall near Outer Banks. NC. These projections are based on information from the NHC (1700 EDT 08/27/2011) forecast. Temporary housing is based on nothing. The number indicated represents a possible need but not necessarily the scope of mission for USACE.

Details about this model may be obtained at http://www.englink.usace.army.mil or contact Louisville District staff at DLL-CELRL-GIS@usace.army.mil

Hurricane Irene Housing Model	
Generated By: Siemsen, LRL 1730 EDT 08/27/2011	
Sources: HURREVAC LRL-DEBRIS	Page 13 of 27

US Army Corps of Engineers

Hurricane Irene Temporary Housing Model

Landfall Plus About 9 Hours

For Planning Purposes Only!

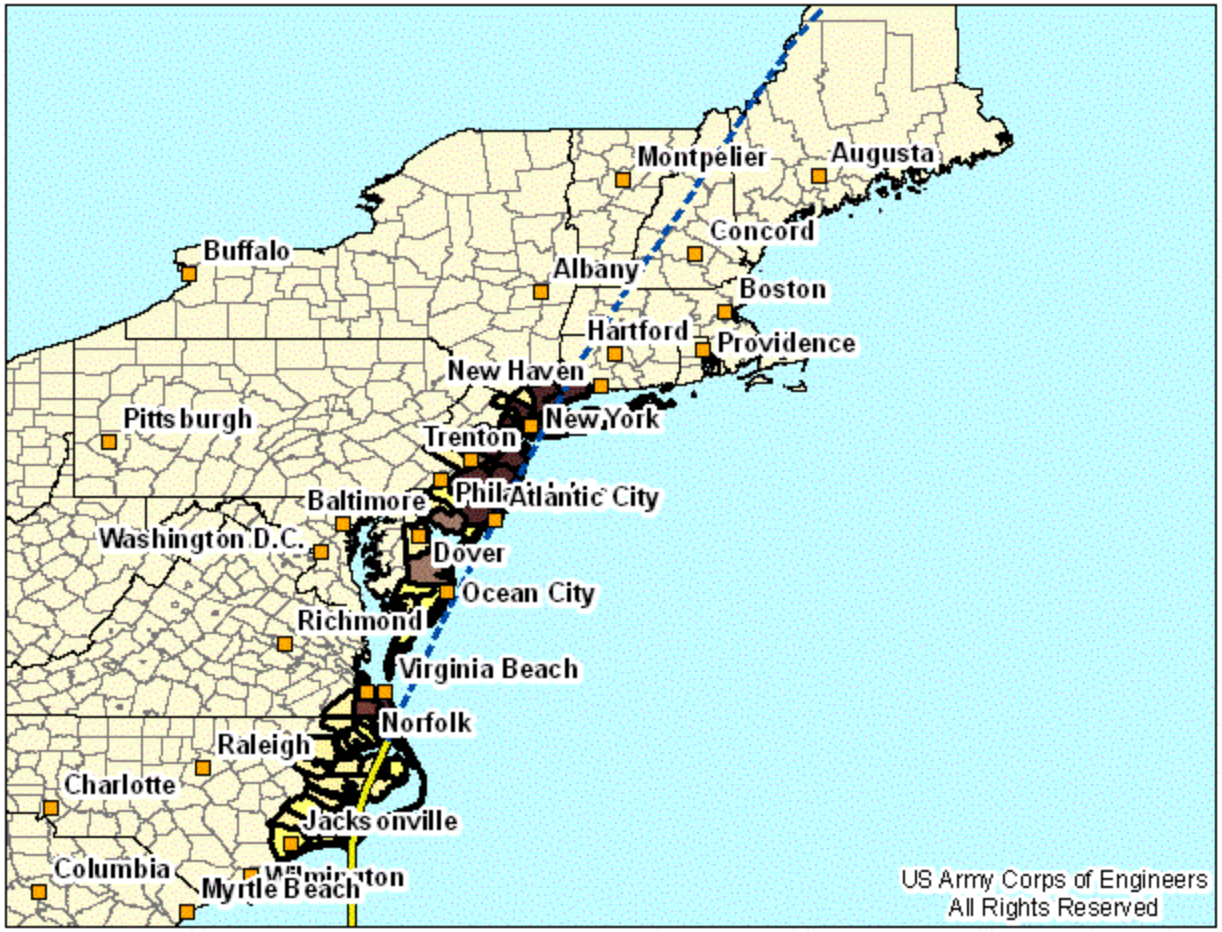
State	House Units per State	County	House Units per County

US Army Corps of Engineers

Hurricane Irene Population Model

Landfall Plus About 9 Hours

For Planning Purposes Only!



Post Landfall Population Model Results

New York - 11,744,000
New Jersey - 5,074,000
Virginia - 1,167,000
Connecticut - 627,000
North Carolina - 407,000
Delaware - 177,000
Maryland - 160,000

Model results per County on following page

This model is based on a Category 1 storm making landfall near Outer Banks. NC.

Forecast Track
Historic Track

Population

- < 25,000 persons
- 25,000 - 99,999 persons
- 100,000 - 174,999 persons
- 175,000 - 249,999 persons
- > 250,000 persons

Information provided on this page displays a Category 1 storm making landfall near Outer Banks. NC. These projections are based on information from the NHC (1700 EDT 08/27/2011) forecast. The numbers of persons included in this model output are those that would be included within estimated hurricane force winds (Census 2000 values adjusted to July 2010 values).

Details about this model may be obtained at http://www.englink.usace.army.mil or contact Louisville District staff at DLL-CELRL-GIS@usace.army.mil

Hurricane Irene Population Model	
Generated By: Siemsen, LRL 1730 EDT 08/27/2011	
Sources: HURREVAC LRL-DEBRIS	Page 15 of 27

US Army Corps of Engineers

Hurricane Irene Population Model

Landfall Plus About 9 Hours

For Planning Purposes Only!

State	Population per State	County	Population per County
Connecticut		Fairfield County	627,000
Connecticut	627,000		
Delaware		Kent County	8,000
		Sussex County	169,000
Delaware	177,000		
Maryland		Somerset County	24,000
		Wicomico County	87,000
		Worcester County	49,000
Maryland	160,000		
New Jersey		Atlantic County	274,000
		Bergen County	498,000
		Burlington County	255,000
		Camden County	104,000
		Cape May County	97,000
		Cumberland County	114,000
		Essex County	492,000
		Gloucester County	51,000
		Hudson County	616,000
		Mercer County	147,000
		Middlesex County	748,000
		Monmouth County	647,000
		Ocean County	578,000
		Passaic County	17,000
		Salem County	5,000
		Somerset County	30,000
		Union County	401,000
New Jersey	5,074,000		

State	Population per State	County	Population per County
New York		Bronx County	1,392,000
		Kings County	2,547,000
		Nassau County	1,367,000
		New York County	1,615,000
		Queens County	2,355,000
		Richmond County	494,000
		Rockland County	4,000
		Suffolk County	1,254,000
		Westchester County	716,000
New York	11,744,000		
North Carolina		Beaufort County	25,000
		Bertie County	3,000
		Camden County	10,000
		Carteret County	66,000
		Chowan County	16,000
		Craven County	83,000
		Currituck County	25,000
		Dare County	35,000
		Gates County	4,000
		Hyde County	6,000
		Jones County	4,000
		Martin County	2,000
		Onslow County	42,000
		Pamlico County	13,000
		Pasquotank County	42,000
		Perquimans County	13,000
		Tyrrell County	5,000
		Washington County	13,000

The number of persons estimated to be within the hurricane force winds comes from Census 2000 values adjusted to July 2010 values.

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Source: US Army Corps of Engineers, All Rights Reserved

Hurricane Irene Population Model

Generated By:
Siemsen, LRL 1730 EDT 08/27/2011

Sources:
HURREVAC
LRL-DEBRIS

US Army Corps of Engineers

Hurricane Irene Population Model

Landfall Plus About 9 Hours

For Planning Purposes Only!

State	Population per State	County	Population per County
North Carolina	407,000		
(continued)			
Pennsylvania		Bucks County	< 1,000
Pennsylvania			
Virginia		Accomack County	38,000
		Chesapeake city	226,000
		Hampton city	59,000
		Norfolk city	256,000
		Northampton County	14,000
		Poquoson city	< 1,000
		Portsmouth city	131,000
		Suffolk city	7,000
		Virginia Beach city	436,000
Virginia	1,167,000		

The number of persons estimated to be within the hurricane force winds comes from Census 2000 values adjusted to July 2010 values.

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Source: US Army Corps of Engineers, All Rights Reserved

Hurricane Irene Population Model

Generated By:
Siemsen, LRL 1730 EDT 08/27/2011

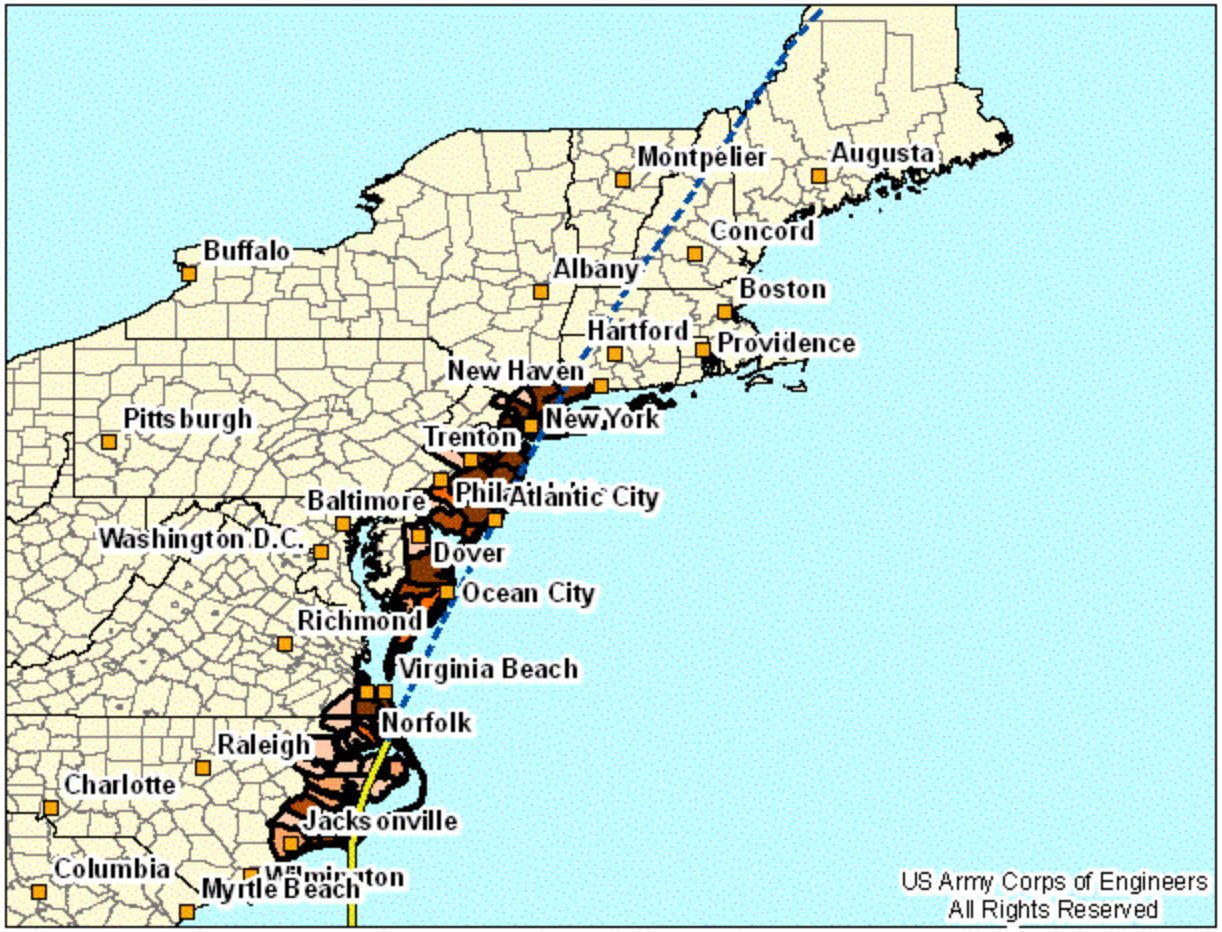
Sources:
HURREVAC
LRL-DEBRIS

US Army Corps of Engineers

Hurricane Irene Households Model

Landfall Plus About 9 Hours

For Planning Purposes Only!



Post Landfall Households Model Results

New York - 4,305,000
New Jersey - 1,875,000
Virginia - 428,000
Connecticut - 233,000
North Carolina - 158,000
Delaware - 71,000
Maryland - 62,000

Model results per County on following page

This model is based on a Category 1 storm making landfall near Outer Banks. NC.

Forecast Track
Historic Track

Households

- < 7,500 households
- 7,500 - 14,999 households
- 15,000 - 24,999 households
- 25,000 - 49,999 households
- > 50000 households

Information provided on this page displays a Category 1 storm making landfall near Outer Banks. NC. These projections are based on information from the NHC (1700 EDT 08/27/2011) forecast. The numbers of households included in this model output are those that would be included within estimated hurricane force winds (Census 2000 values adjusted to July 2010 values).

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Hurricane Irene Households Model

Generated By:
Siemsen, LRL 1730 EDT 08/27/2011

Sources:
HURREVAC
LRL-DEBRIS

US Army Corps of Engineers

Hurricane Irene Households Model

Landfall Plus About 9 Hours

For Planning Purposes Only!

State	Households per State	County	Households per County
Connecticut		Fairfield County	233,000
Connecticut	233,000		
Delaware		Kent County	3,000
		Sussex County	68,000
Delaware	71,000		
Maryland		Somerset County	8,000
		Wicomico County	33,000
		Worcester County	21,000
Maryland	62,000		
New Jersey		Atlantic County	103,000
		Bergen County	194,000
		Burlington County	91,000
		Camden County	36,000
		Cape May County	40,000
		Cumberland County	40,000
		Essex County	173,000
		Gloucester County	18,000
		Hudson County	233,000
		Mercer County	56,000
		Middlesex County	265,000
		Monmouth County	236,000
		Ocean County	227,000
		Passaic County	6,000
		Salem County	2,000
		Somerset County	11,000
		Union County	144,000
New Jersey	1,875,000		

State	Households per State	County	Households per County
New York		Bronx County	485,000
		Kings County	912,000
		Nassau County	459,000
		New York County	776,000
		Queens County	827,000
		Richmond County	174,000
		Rockland County	2,000
		Suffolk County	405,000
		Westchester County	265,000
New York	4,305,000		
North Carolina		Beaufort County	11,000
		Bertie County	2,000
		Camden County	4,000
		Carteret County	28,000
		Chowan County	6,000
		Craven County	31,000
		Currituck County	10,000
		Dare County	15,000
		Gates County	2,000
		Hyde County	2,000
		Jones County	2,000
		Martin County	< 1,000
		Onslow County	11,000
		Pamlico County	5,000
		Pasquotank County	16,000
		Perquimans County	6,000
		Tyrrell County	2,000
		Washington County	5,000

The number of households estimated to be within the hurricane force winds comes from Census 2000 values adjusted to July 2010 values.

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Source: US Army Corps of Engineers, All Rights Reserved

Hurricane Irene Households Model

Generated By:
Siemsen, LRL 1730 EDT 08/27/2011

Sources:
HURREVAC
LRL-DEBRIS

US Army Corps of Engineers

Hurricane Irene Households Model

Landfall Plus About 9 Hours

For Planning Purposes Only!

State	Households per State	County	Households per County
North Carolina	158,000		
(continued)			
Pennsylvania		Bucks County	< 1,000
Pennsylvania			
Virginia		Accomack County	16,000
		Chesapeake city	80,000
		Hampton city	22,000
		Norfolk city	94,000
		Northampton County	6,000
		Poquoson city	< 1,000
		Portsmouth city	48,000
		Suffolk city	3,000
		Virginia Beach city	159,000
Virginia	428,000		

The number of households estimated to be within the hurricane force winds comes from Census 2000 values adjusted to July 2010 values.

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Source: US Army Corps of Engineers, All Rights Reserved

Hurricane Irene Households Model

Generated By:
Siemsen, LRL 1730 EDT 08/27/2011

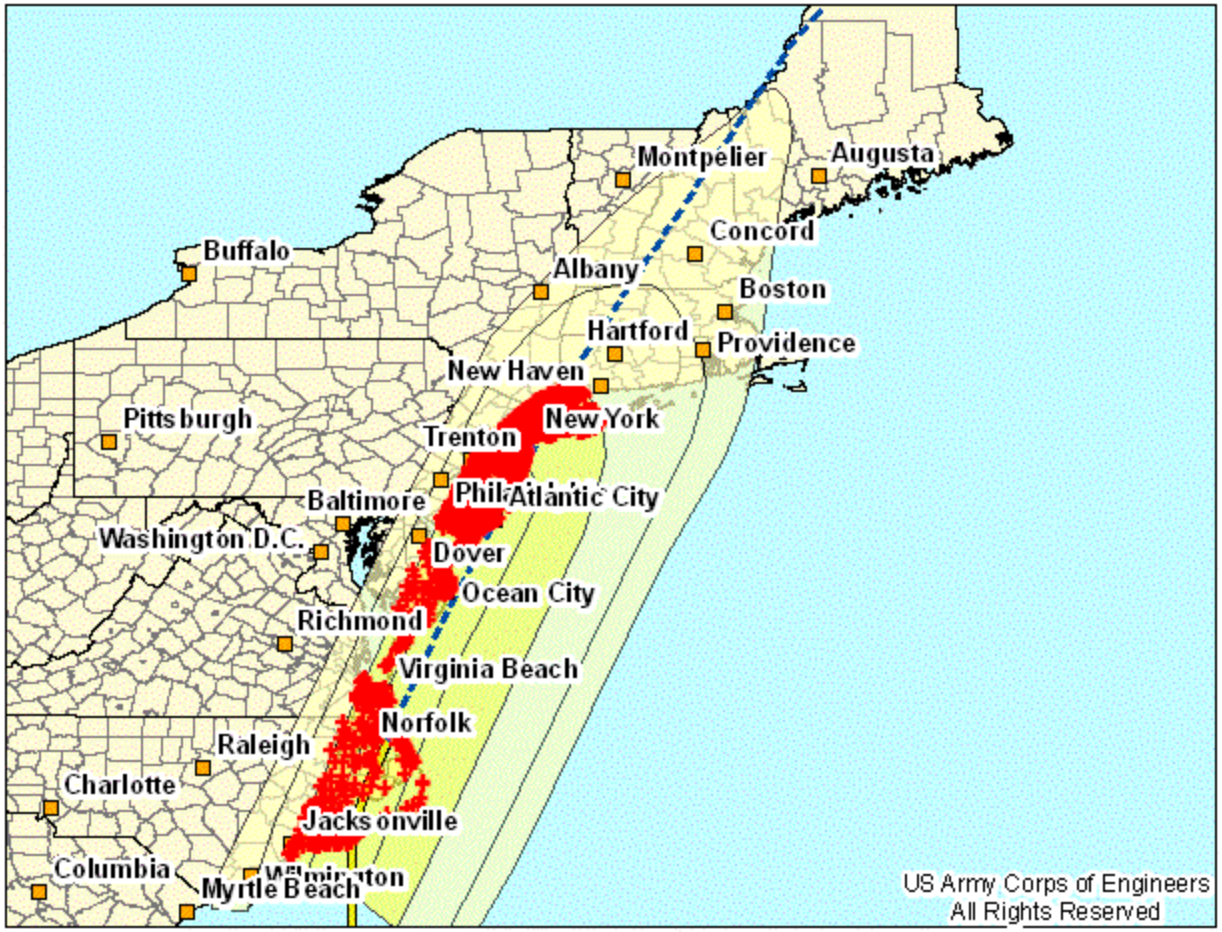
Sources:
HURREVAC
LRL-DEBRIS

US Army Corps of Engineers

Hurricane Irene Fire Stations

Landfall Plus About 9 Hours

For Planning Purposes Only!



Most Probable Landfall Fire Stations Inside Hurricane Force Winds

New Jersey - 687
New York - 642
North Carolina - 170
Virginia - 94
Connecticut - 63
Maryland - 34
Delaware - 28

Model results per County on following page

This model is based on a Category 1 storm making landfall near Outer Banks. NC.

+ Fire Stations
Forecast Track
Historic Track

Information provided on this page displays a Category 1 storm making landfall near Outer Banks. NC. These projections are based on information from the NHC (1700 EDT 08/27/2011) forecast.

The number of fire stations included in this output are those that would be included within estimated hurricane force winds (data source: HSIP Gold 2011).

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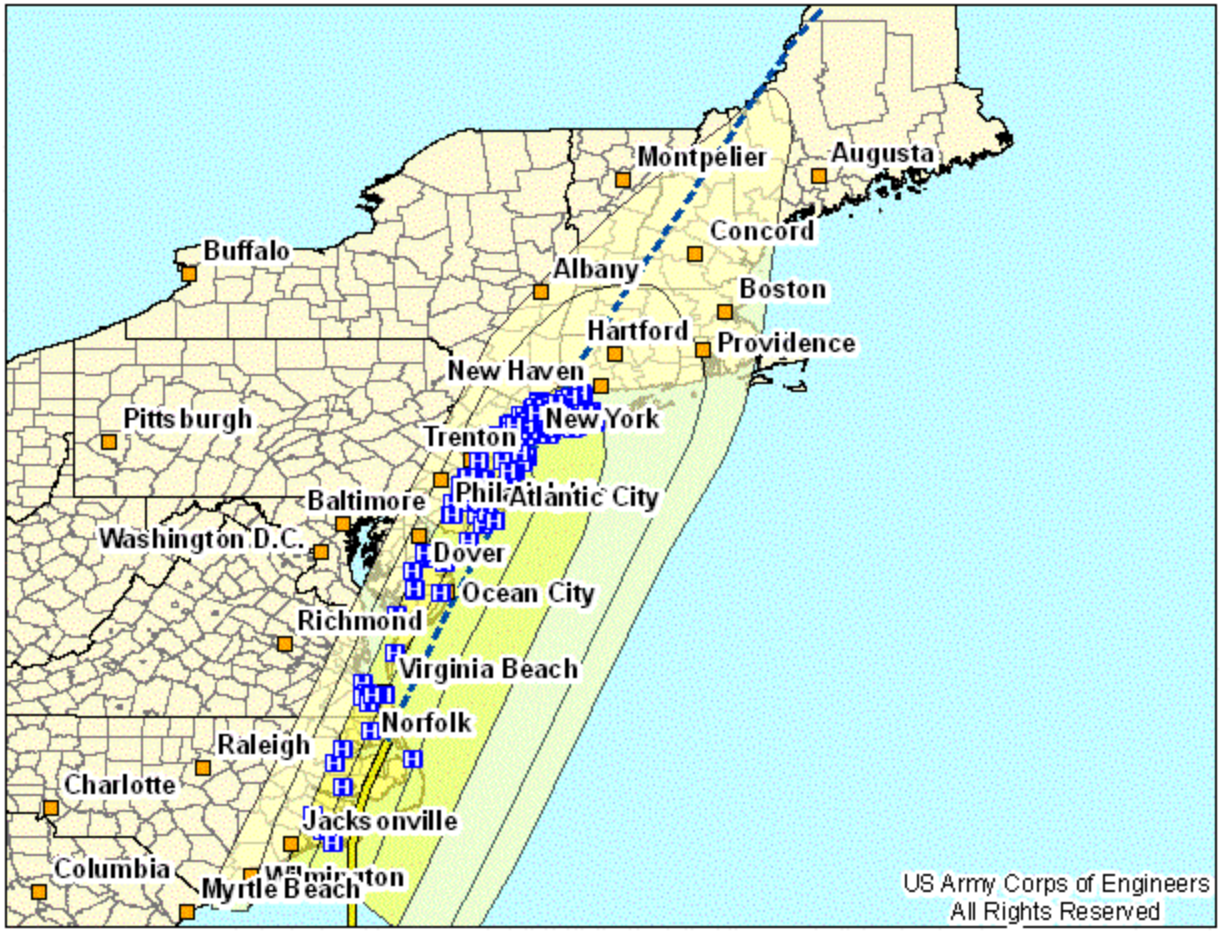
Hurricane Irene Fire Stations	
Generated By: Siemsen, LRL 1730 EDT 08/27/2011	
Sources: HURREVAC LRL-DEBRIS	Page 21 of 27

US Army Corps of Engineers

Hurricane Irene Hospitals

Landfall Plus About 9 Hours

For Planning Purposes Only!



Most Probable Landfall Hospitals Inside Hurricane Force Winds

New York - 98
New Jersey - 77
Virginia - 14
North Carolina - 8
Connecticut - 6
Maryland - 5
Delaware - 4

Model results per County on following page

This model is based on a Category 1 storm making landfall near Outer Banks. NC.

Hospitals
Forecast Track
Historic Track

Information provided on this page displays a Category 1 storm making landfall near Outer Banks. NC. These projections are based on information from the NHC (1700 EDT 08/27/2011) forecast.

The number of hospitals included in this output are those that would be included within estimated hurricane force winds (data source: HSIP Gold 2011).

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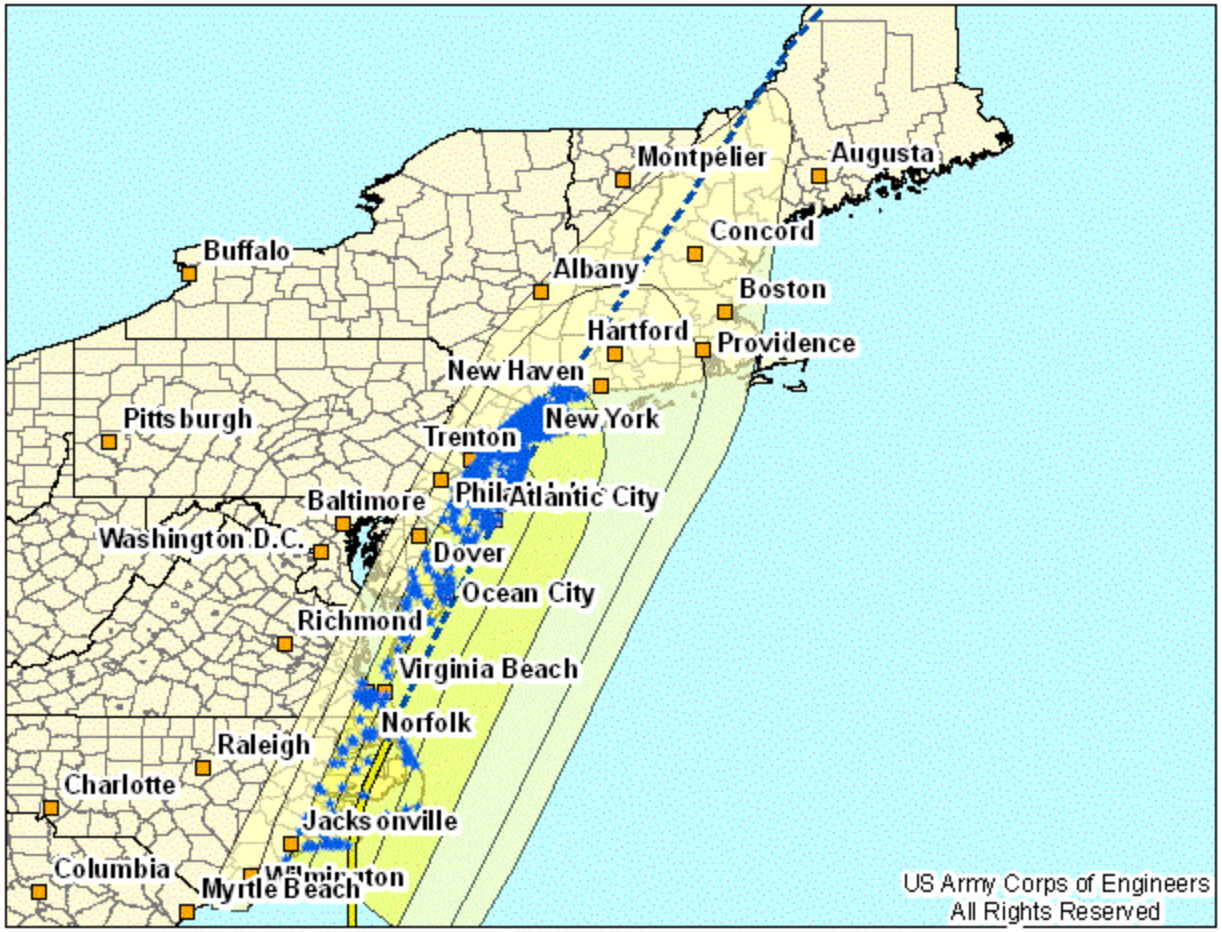
Hurricane Irene Hospitals	
Generated By: Siemsen, LRL 1730 EDT 08/27/2011	
Sources: HURREVAC LRL-DEBRIS	

US Army Corps of Engineers

Hurricane Irene Law Enforcement

Landfall Plus About 9 Hours

For Planning Purposes Only!



Most Probable Landfall Law Enforcement Inside Hurricane Force Winds

New York - 352
New Jersey - 326
North Carolina - 76
Virginia - 50
Maryland - 31
Connecticut - 23
Delaware - 19

Model results per County on following page

This model is based on a Category 1 storm making landfall near Outer Banks. NC.

Law Enforcement
Forecast Track
Historic Track

Information provided on this page displays a Category 1 storm making landfall near Outer Banks. NC. These projections are based on information from the NHC (1700 EDT 08/27/2011) forecast.

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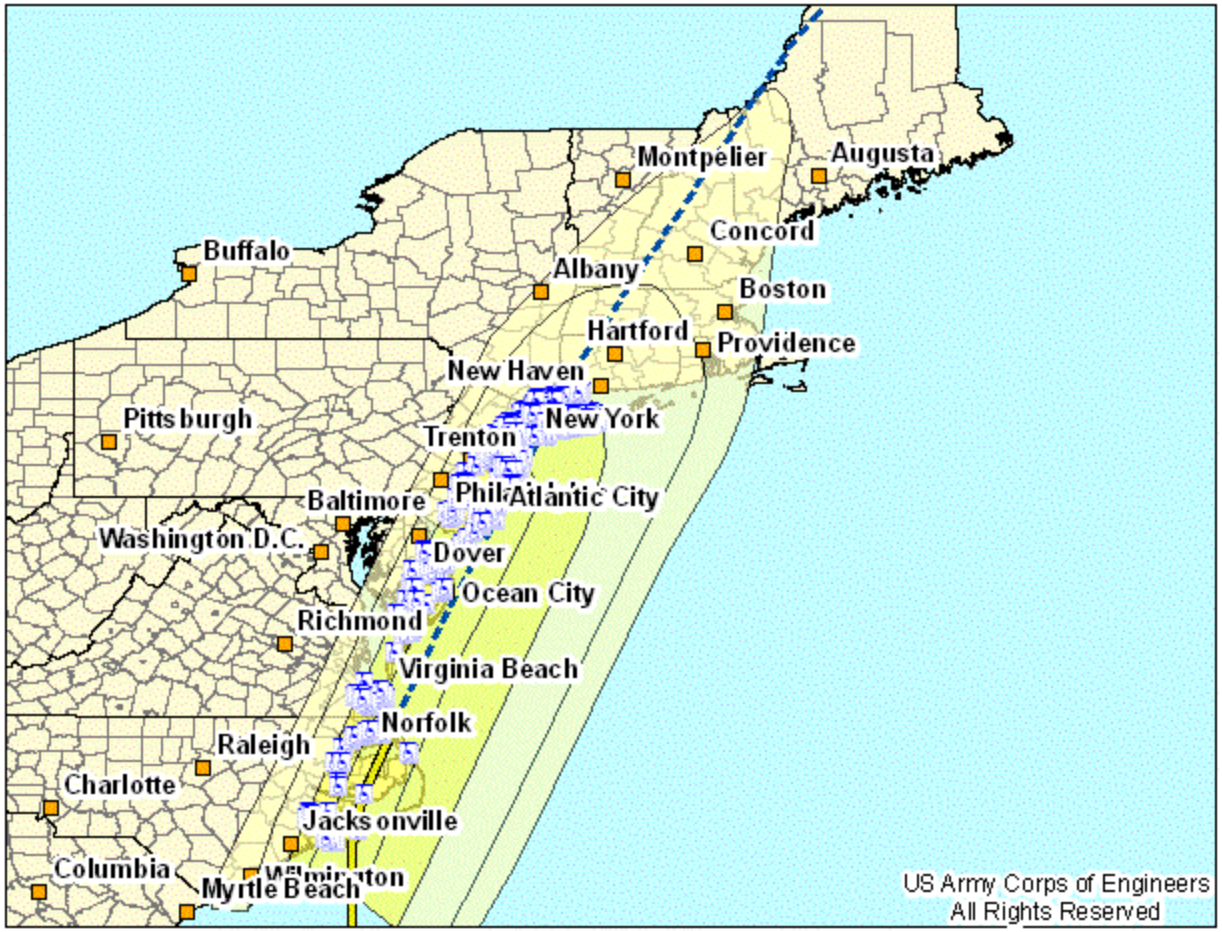
Hurricane Irene Law Enforcement	
Generated By: Siemsen, LRL 1730 EDT 08/27/2011	
Sources: HURREVAC LRL-DEBRIS	Page 23 of 27

US Army Corps of Engineers

Hurricane Irene Nursing Homes

Landfall Plus About 9 Hours

For Planning Purposes Only!



Most Probable Landfall Nursing Homes Inside Hurricane Force Winds

New York - 409
New Jersey - 270
Virginia - 90
Connecticut - 45
North Carolina - 44
Delaware - 20
Maryland - 19

Model results per County on following page

This model is based on a Category 1 storm making landfall near Outer Banks. NC.

Nursing Homes
Forecast Track
Historic Track

Information provided on this page displays a Category 1 storm making landfall near Outer Banks. NC. These projections are based on information from the NHC (1700 EDT 08/27/2011) forecast.

The number of nursing homes included in this output are those that would be included within estimated hurricane force winds (data source: HSIP Gold 2011).

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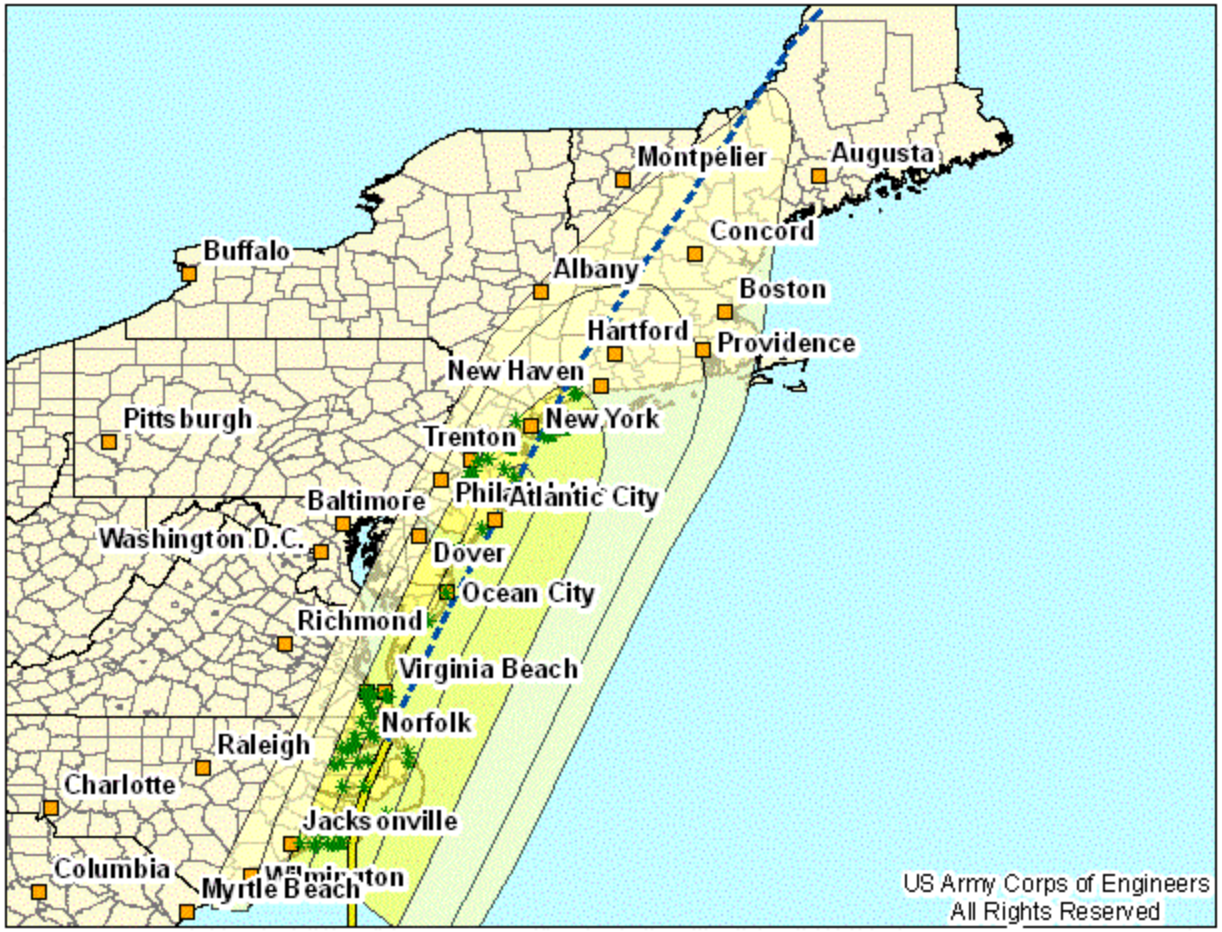
Hurricane Irene Nursing Homes	
Generated By: Siemsen, LRL 1730 EDT 08/27/2011	
Sources: HURREVAC LRL-DEBRIS	Page 24 of 27

US Army Corps of Engineers

Hurricane Irene Potable Water

Landfall Plus About 9 Hours

For Planning Purposes Only!



Potable Water
Forecast Track
Historic Track

Most Probable Landfall Potable Water Inside Hurricane Force Winds

North Carolina - 31
New Jersey - 13
Virginia - 11
New York - 10
Connecticut - 2
Maryland - 1

Model results per County on following page

This model is based on a Category 1 storm making landfall near Outer Banks. NC.

Information provided on this page displays a Category 1 storm making landfall near Outer Banks. NC. These projections are based on information from the NHC (1700 EDT 08/27/2011) forecast.

The number of potable water included in this output are those that would be included within estimated hurricane force winds (data source: HSIP Gold 2011).

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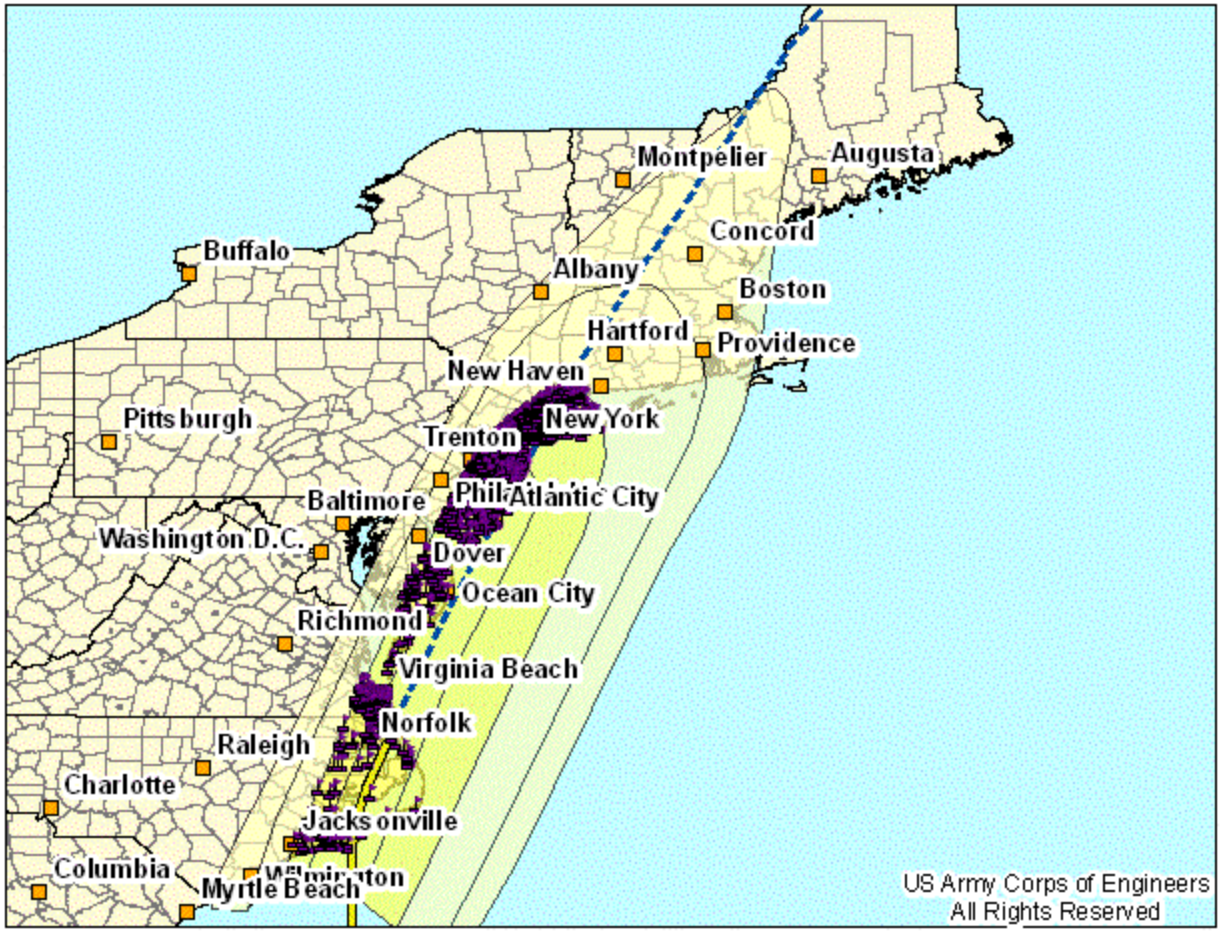
Hurricane Irene Potable Water	
Generated By: Siemsen, LRL 1730 EDT 08/27/2011	
Sources: HURREVAC LRL-DEBRIS	

US Army Corps of Engineers

Hurricane Irene Schools

Landfall Plus About 9 Hours

For Planning Purposes Only!



Most Probable Landfall Schools Inside Hurricane Force Winds

New York - 2,327
New Jersey - 1,401
Virginia - 285
Connecticut - 170
North Carolina - 118
Delaware - 46
Maryland - 44

Model results per County on following page

This model is based on a Category 1 storm making landfall near Outer Banks. NC.

Schools
Forecast Track
Historic Track

Information provided on this page displays a Category 1 storm making landfall near Outer Banks. NC. These projections are based on information from the NHC (1700 EDT 08/27/2011) forecast.

The number of schools included in this output are those that would be included within estimated hurricane force winds (data source: HSIP Gold 2011).

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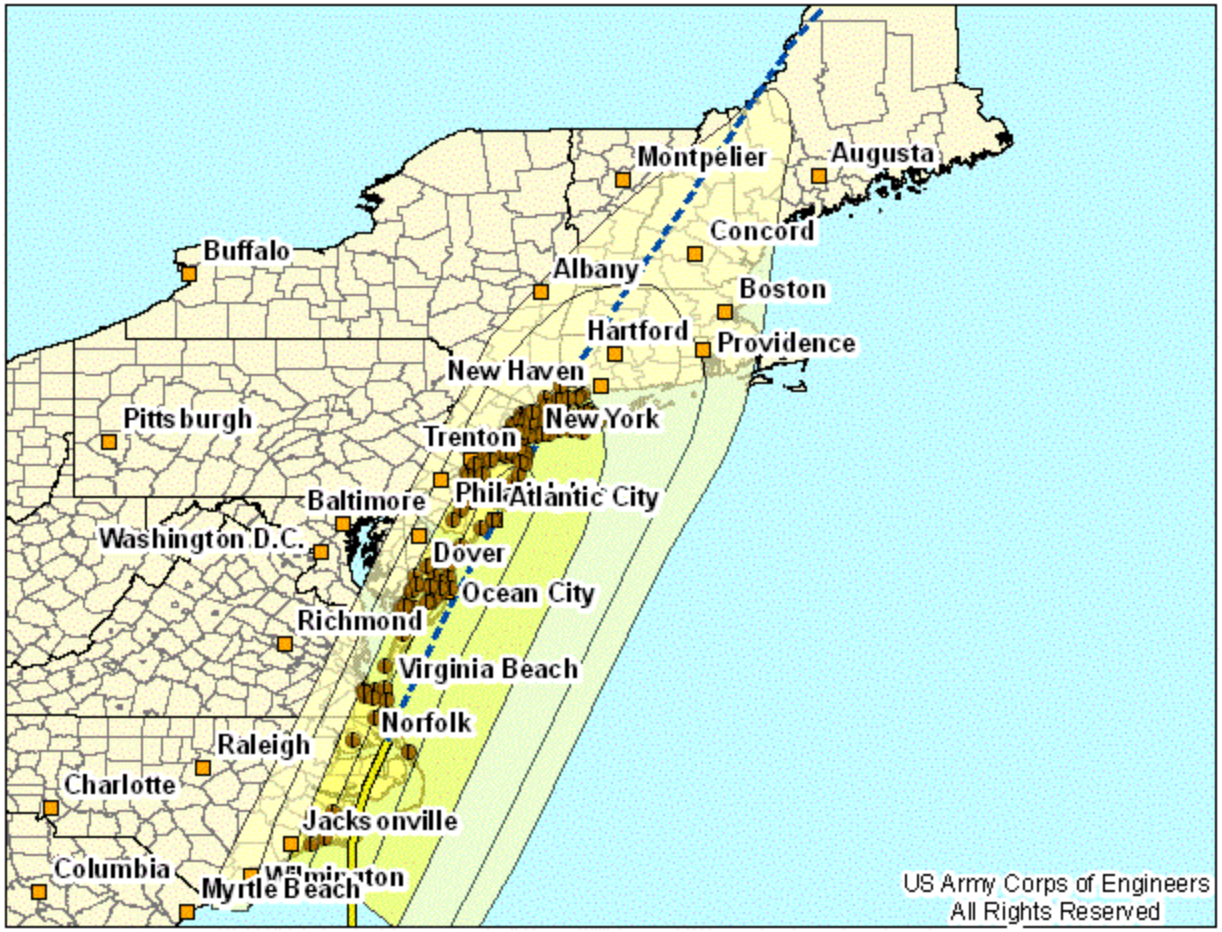
Hurricane Irene Schools	
Generated By: Siemsen, LRL 1730 EDT 08/27/2011	
Sources: HURREVAC LRL-DEBRIS	

Hurricane Irene Sewage Treatment Plants

Landfall Plus About 9 Hours

US Army Corps of Engineers

For Planning Purposes Only!



Most Probable Landfall Sewage Treatment Plants Inside Hurricane Force Winds

New Jersey - 68
New York - 56
Maryland - 18
Virginia - 11
Connecticut - 11
Delaware - 9
North Carolina - 8

Model results per County on following page

This model is based on a Category 1 storm making landfall near Outer Banks. NC.

Sewage Treatment Plants
Forecast Track
Historic Track

Information provided on this page displays a Category 1 storm making landfall near Outer Banks. NC. These projections are based on information from the NHC (1700 EDT 08/27/2011) forecast.

The number of sewage treatment plants included in this output are those that would be included within estimated hurricane force winds (data source: HSIP Gold 2011).

Details about this model may be obtained at http://www.englink.usace.army.mil or contact Louisville District staff at DLL-CELRL-GIS@usace.army.mil

Hurricane Irene Sewage Treatment Plants	
Generated By: Siemsen, LRL 1730 EDT 08/27/2011	
Sources: HURREVAC LRL-DEBRIS	Page 27 of 27